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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/792,231	03/03/2004	Yu-Kai Lin	250122-1300	4781

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EXAMINER

VORTMAN, ANATOLY

ART UNIT	PAPER NUMBER
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2835

DATE MAILED: 07/11/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/792,231	LIN, YU-KAI	
	Examiner	Art Unit	
	Anatoly Vortman	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 May 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3,6-10 and 14-20 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3,6-10 and 14-20 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 03 March 2004 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Amendment

1. The submission of the reply of 05/27/06 to the non-final Office action of 03/17/06 is hereby acknowledged. Claims 1, 6, and 7 have been amended and claims 4, 5, and 11-13 have been cancelled. The Office action follows:

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the “third electronic element disposed on the second circuit board and positioned between the first circuit board and the second circuit board” as recited in claim 10, must be shown. No new matter should be entered. The drawings have failed to show the two circuit board display structure utilizing thermal conductive devices as recited in claim 1, and at the same time having the third electronic element disposed on the second circuit board and positioned between the first circuit board and the second circuit board. Claims read on the embodiment depicted on Fig. 7. However, Fig. 7 does not show the third electronic element disposed on the second circuit board and positioned between the first circuit board and the second circuit board. Corrected drawing sheets in compliance with 37 CFR 1.121(d) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate

Art Unit: 2835

prior version of the sheet, even if only one figure is being amended. The figure or figure number of an amended drawing should not be labeled as "amended." If a drawing figure is to be canceled, the appropriate figure must be removed from the replacement sheet, and where necessary, the remaining figures must be renumbered and appropriate changes made to the brief description of the several views of the drawings for consistency. Additional replacement sheets may be necessary to show the renumbering of the remaining figures. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 1-3, 6-10, and 14-20, are rejected under 35 U.S.C. 103(a) as being unpatentable over JP/2002-006754 to Koichi et al., (Koichi) (of record) in view of US/4,689,720 to Daszkowski.

Regarding claim 1, Koichi disclosed a plasma display (Fig. 8), comprising: a base plate (2); a back cover (C2) engaged with the base plate (2) to form a space; a first circuit board (4)

Art Unit: 2835

disposed in the space and mounted on the base plate (2); and a first electronic element (E2) disposed on the first circuit board (4), but did not disclose: a first thermal conductive device disposed between the first electronic element (E2) and the back cover (C2) and mounted on the first electronic element (E2) wherein the first thermal conductive device comprises a thermal conductive spring element having at least one spring leg extending toward the back cover and at least one contact plate connected to the spring leg and abutting the back cover (C2).

Daszkowski disclosed (Fig. 2B) a thermal conductive device comprising a thermal conductive spring element having at least one spring leg (18', 20', 30) and at least one contact plate (32) connected to the spring leg (18', 20', 30). Further, Daszkowski teaches that the thermal conductive device is used to provide a good thermal path between the heat source (34) and the heat sink (36) (Fig. 3A-3D, column 2, lines 58+, column 4, lines 63+, column 5, lines 1+).

It would have been obvious to a person of ordinary skill in the cooling art at the time the invention was made to utilize the thermal conductive devices of Daszkowski in the plasma display of Koichi by placing them between the first electronic element (E2) and the back cover (C2), so that the surface (22') of the thermal conductive device would abut the surface of the electronic device (E2) (heat source) and the legs (18', 20', 30) would extend toward the back cover (C2) (heat sink), wherein the at least one contact plate (32) would abut the back cover (C2) in order to augment the rate of the heat exchange between said electronic elements (E2) and the back cover (C2), thus enhancing the overall efficiency of the cooling arrangement of the display of Koichi.

Regarding claims 2 and 3, Koichi teaches that the base plate (2) is made of aluminum

(see translation, section [0005] (<http://www4.ipdl.ncipi.go.jp/Tokujitu/PAJdetail.ipdl?N0000=60&N0120=01&N2001=2&N3001=2002-006754>)).

Regarding claim 6, Daszkowski disclosed (Fig. 2B) that the spring leg (18', 20', 30) is integrally formed with the contact plate (32).

Regarding claim 7, Daszkowski disclosed that the thermal conductive spring comprises copper (column 5, lines 27-28).

Regarding claim 8, Koichi disclosed (Fig. 8) a plurality of the first supporters (portions of the base plate (2) on which the circuit board (4) rests) disposed between and separating the first circuit board (4) and the base plate (2) by an appropriate distance.

Regarding claim 9, Koichi disclosed (Fig. 8) a second electronic element (E1) disposed on the first circuit board (4) opposite to the first electronic element (E2).

Regarding claims 10 and 19, Koichi disclosed (Fig. 4) a second circuit board (4) mounted on the base plate (2) between the first circuit board (13') and the base plate (2); a third electronic element (E1'') disposed on the second circuit board (4) and positioned between the first circuit board (13') and the second circuit board (4).

Regarding claims 14-18, Koichi disclosed (Fig. 8) that a forth electronic element (either (E1) or (E2)) disposed on the first circuit board (4). It would have been obvious to a person of ordinary skill in the cooling art at the time of the invention to position said thermal conductive devices of Daszkowski between the forth electronic element and the back cover (C2), in order to augment the rate of the heat exchange (as discussed above regarding claims 1, 6, and 7) and, alternatively, because it would constitute a mere duplication of the essential working parts. It has

Art Unit: 2835

been held that mere duplication of the essential working parts of a device involves only routine skill in the art. *St. Regis Paper Co. v. Bemis Co.*, 193 USPQ 8.

Regarding claim 20, Koichi disclosed (Fig. 8) a fifth electronic element (either one of the elements (E1) or (E2)) disposed on the first circuit board (4) opposite to the first electronic element.

Response to Arguments

5. Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure:

US/4442450, 5287001, 6043981, 6049469, 6388189, and 6870738 disclosed cooling arrangements for electronic devices utilizing thermally conductive members disposed between heat producing electronic components and heat absorbing structures.

US/6504713 disclosed cooling arrangement for a computer display.

US/6381124 disclosed computer display structure.

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Anatoly Vortman whose telephone number is 571-272-2047. The examiner can normally be reached on Monday-Friday, between 10:00 am and 6:30 pm..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ms. Lynn Feild can be reached on 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR

Art Unit: 2835

system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

AV

A handwritten signature in black ink, appearing to read 'A. Vortman', with a long horizontal line extending from the end of the signature towards the right.

Anatoly Vortman
Primary Examiner
Art Unit 2835